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ABSTRACT

This is a study comparing the amount of change in the level of competence in language skills between beginning students of French in two types of instructional programs. Significant differences were found between students enrolled in regularly scheduled classes and those using a multimedia, self-paced, individualized instructional system. Students using the individualized system made significantly more progress than the students attending regular classes in speaking, reading, writing, and composite language skill. There was no significant difference between the two groups in listening comprehension. Levels of language competence were measured by the "MLA--Cooperative Foreign Language Tests", and additional data was obtained by administering the "Otis Quick Scoring Tests of Mental Ability." An additional conclusion of the study was that students scoring in the upper and lower extremes of measured mental ability benefited more from the individualized program than did the students in the middle one-third of the sample. (Author/SW)

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THE EVALUATION OF A MULTI-MEDIA SELF-PACED INDIVIDUALIZED INSTRUCTIONAL SYSTEM IN BEGINNING COLLEGE FRENCH

Jane Harper

Most American education has been organized around a model "that provides for fixed exposure over specified time periods to common instructional content for all students."[1] College courses in foreign languages have traditionally been taught in lock-step fashion: groups of students meet a given number of hours per week in an assigned classroom, studying and being tested on the same material at the same time.

Since educators have proclaimed these lock-step procedures as inhibitors to learning and nave emphasized the need for more individualized approaches to education,[2] an individualized instructional system was developed for beginning French at Tarrant County Junior College (Fort Worth, Texas).

The course was divided into ten segments or modules, each centered around a dialogue. Commercial materials included in the program are the textbook, French: Listening, Speaking, Reading, Writing, and Cahier d'exercises, and the accompanying audio tape recordings, all by Thomas H. Brown.[3] Original materials developed for the program include the following:

1. Ninety (90) single-concept cassette tape recordings.
2. Thirty-eight (38) cassette tape recordings synchronized with colored slides.

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3. Ten (10) videotapes, each composed of three phases: dramatization of a dialogue, instruction in pronunciation, and a small-group question-answer session.
4. Thirty (30) tests, three per segment: an exemption test, a student self-evaluation test, and a final test.

Purpose

The purpose of the study was to compare the amount of change in the level of competence between students studying first-semester French in regularly scheduled classes and the change in the level of competence of students studying first-semester French using the multi-media self-paced individualized instructional system in each of the four language skills -- listening comprehension, speaking, reading, and writing -- and in composite language skill. The study was also intended to indicate the effect of mental ability on the amount of change in the level of competence between the students in the regularly scheduled classes and those using the individualized instructional program.

Procedure

The two campuses of Tarrant County Junior College District of Fort Worth, Texas, were used for the study. On each campus there was a control group and an experimental group. All students enrolling for French 1614, Elementary French I, on the South and Northeast

campuses during a Fall semester were randomly assigned to the control and experimental groups. The control group attended regularly scheduled classes of three fifty-minute sessions and two one-hour laboratory session each week, all conducted by a full-time faculty member. The members of the experimental group did not meet regularly scheduled classes. Their instruction was individualized by the use of the multi-media materials. These materials were utilized in the Programmed Learning Center and in the Language Laboratory on both campuses. The students could use any of the available materials as often as desired during the open hours of the facilities, 8:00 a.m. until 10:00 p.m.

Source of the Data

The instrument used to measure the level of language competence was the MLA-Cooperative Foreign Language Tests, French, Form LA. This battery of tests gives scores indicating the level of competence in each of the four language skills -- listening comprehension, speaking, reading, and writing. In addition, these scores can be combined to yield a composite score indicative of general competence in the language.

Additional data were the scores obtained from the Otis Quick-Scoring Tests of Mental Ability, Gamma Test, Form Am. These tests are designed to measure thinking power or the degree of maturity of the mind.

Collection of the Data

The control group and the experimental group were pre-tested and post-tested with the MLA-Cooperative Foreign Language Tests, French, Form LA. The mean of the difference between the pre-test and the post-test was computed for the control group and for the experimental group in each of the four language skills -- listening comprehension, speaking, reading, and writing -- and in composite language skill, based on the summation of the scores on these four sub-tests. Fisher's t-test of the means for small samples was used to determine whether there was a significant difference between the mean score change of the control group and the mean score change of the experimental group in each of these five sets of data. The null hypotheses were rejected at the .05 level of significance.

The Otis Quick-Scoring Tests of Mental Ability, Gamma Test, Form Am, were also administered to both the control group and the experimental group. The scores obtained by these tests were used to divide the students into three groups indicative of mental ability. The scores of all the students in the sample, both in the control group and in the experimental group, were ranked from high to low, and these scores were partitioned into upper, middle, and lower thirds. The students were then classified according to mental ability as well as to status as belonging to the control group or to the experimental group, resulting in six classification -- upper control,

middle control, lower control, upper experimental, middle experimental, and lower experimental groups.

The mean of the difference between the pre-test and the post-test was computed for the upper control group and for the upper experimental group in each of the four language skills -- listening comprehension, speaking, reading, and writing -- and in composite language skill, based on a summation of the scores on these four sub-tests. The mean of the difference between the pre-test and the post-test was computed for the middle control group and for the middle experimental group in each of the four language skills -- listening comprehension, speaking, reading, and writing -- and in composite language skill, based on a summation of the scores on these four sub-tests. The mean of the difference between the pre-test and the post-test was computed for the lower control group and for the lower experimental group in each of the four language skills -- listening comprehension, speaking, reading, and writing -- and in composite language skill based on a summation of the scores on these four sub-tests.

Fisher's t-test of the means for small samples was used to determine whether there was a significant difference between the mean score change of the control group and the mean change of the experimental group in each of the five sets of data at each of the three levels of mental ability. The null hypotheses were rejected at the .05 level of significance.

Analysis of the Data

The following findings resulted from an analysis of the data:

1. For the total sample the students in the experimental group using the individualized instructional system made significantly more progress than did the students in the control group attending regularly scheduled classes in speaking, reading, writing and composite language skill. There was no significant difference between the two groups in listening comprehension. (See Table I.)

TABLE I

COMPARISON OF TOTAL EXPERIMENTAL GROUP AND TOTAL CONTROL GROUP ON CHANGE IN LANGUAGE COMPETENCE

TEST	GROUP	MEAN SCORE CHANGE	t
Listening Comprehension	Experimental	8.5926	0.1572
	Control	8.2895	
Speaking	Experimental	38.1852	10.3530*
	Control	21.1842	
Reading	Experimental	11.1111	4.6456*
	Control	2.1579	
Writing	Experimental	14.4815	2.3032*
	Control	6.8158	
Composite	Experimental	72.3704	6.9475*
	Control	38.4474	

* Significant at .05

2. Among the students in the upper one-third of the sample in mental ability, those in the experimental group made significantly more progress than did those in the control group in speaking, reading, writing, and composite language skill. There was no significant difference between the two groups in listening comprehension. (See Table II.)

TABLE II

COMPARISON OF UPPER EXPERIMENTAL GROUP AND UPPER CONTROL GROUP ON CHANGE IN LANGUAGE COMPETENCE

TEST	GROUP	MEAN SCORE CHANGE	t.
Listening Comprehension	Experimental	10.2000	0.2910
	Control	9.0000	
Speaking	Experimental	42.4000	5.6766*
	Control	22.2500	
Reading	Experimental	15.5000	2.5477*
	Control	3.5833	
Writing	Experimental	18.6000	0.9689
	Control	10.4167	
Composite	Experimental	86.7000	3.5501*
	Control	45.2500	

* Significant at .05

3. Among the students in the middle one-third of the sample in mental ability, those using the experimental individualized approach made significantly more progress than did those attending regularly scheduled classes in speaking and composite language skill. There was no significant difference between the two groups in listening comprehension, reading, and writing. (See Table III.)

TABLE III

COMPARISON OF MIDDLE EXPERIMENTAL GROUP AND MIDDLE CONTROL GROUP ON CHANGE IN LANGUAGE COMPETENCE

TEST	GROUP	MEAN SCORE CHANGE	t
Listening Comprehension	Experimental	8.6000	0.0611
	Control	8.3520	
Speaking	Experimental	41.2000	8.9190*
	Control	20.4118	
Reading	Experimental	6.8000	1.9632
	Control	1.1176	
Writing	Experimental	6.6000	0.1995
	Control	5.5882	
Composite	Experimental	63.2000	3.5866*
	Control	35.4706	

* Significant at .05

4. Among the students in the lower one-third of the sample in mental ability, those in the individualized program made significantly more progress than did those in regularly scheduled classes in speaking, reading, writing, and composite language skill. There was no significant difference between the two groups in listening comprehension. (See Table IV.)

TABLE IV

COMPARISON OF LOWER EXPERIMENTAL GROUP AND LOWER CONTROL GROUP ON CHANGE IN LANGUAGE COMPETENCE

TEST	GROUP	MEAN SCORE CHANGE	t
Listening Comprehension	Experimental	7.2500	0.0080
	Control	7.2222	
Speaking	Experimental	33.4167	4.5870*
	Control	21.2222	
Reading	Experimental	9.2500	2.4314*
	Control	2.2222	
Writing	Experimental	14.3333	2.1123*
	Control	4.3333	
Composite	Experimental	64.2500	5.1496*
	Control	35.0000	

* Significant at .05

Conclusions

1. The overall achievement of the students using the individualized system was significantly greater than that of the students attending regularly scheduled classes.

2. Students in the upper and lower extremes of the sample benefitted more from the individualized program than did the students in the middle one-third of the sample.

3. The terminal outcomes of the two methods were similar in the skill area of listening comprehension.

4. The use of the individualized instructional system was an effective method of teaching beginning French at the junior college level.

Notes

[1]Hugh F. McKeegan, "What Individualizing Instruction Means to the Curriculum Director," Audiovisual Instruction, XIII (March, 1968), 232.

[2]Richard V. Jones, Jr., "Learning Activity Packages: An Approach to Individualized Instruction," Journal of Secondary Education, XLIII (April, 1968), 178.

[3]Thomas H. Brown, French, Listening, Speaking, Reading, Writing, New York: McGraw-Hill Book Company, 1965.

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IMPLEMENTING INDIVIDUALIZED INSTRUCTIONAL SYSTEMS

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Individualized instructional processes--whether called the Keller Plan, Personalized System of Instruction, Individually Prescribed Instruction, or Personalized Educational Prescriptions, and by whichever format designed, Learning Activity Package, Teaching-Learning Unit, or UNIPAC--have been shown to be effective in assisting students to master the objectives of their courses and have, therefore, been accepted by many educators as a means of improving instruction.

Effective individualized instructional programs include elements which permit each student to successfully complete each course at his own pace and according to his own learning style. Most self-paced learning systems are organized in a series of modules, each of which is composed of the following basic elements or parts:

1. A rational, motivational statement, or introduction to subject content.
2. Behavioral or performance objectives.
3. A variety of learning activities or experiences.
4. A system of evaluation, including a pre-test, a self-test, and several forms of a post-test.
5. A revision section for appraisal of and feedback into the system.

There are several important components which can enhance the effectiveness of a system of self-paced instruction:

1. Differentiated staffing to include lecturers, small-group interaction leaders, tutors, laboratory assistants, counselors, and clerical aides, in addition to the developer and manager of the system.
2. Media personnel for consultation with faculty; for selection and/or production of graphics, sound and video recordings, as well as print materials; and for selection and maintenance of equipment.
3. Variable and flexible areas for large-group, small-group, and independent learning activities.
4. Learning laboratories arranged and equipped for individual or small-group use of such materials as slides, filmstrips, 8 mm film loops, 16 mm films, records, video tapes, and audio tapes, both reel-to-reel and cassette.
5. Necessary software in various appropriate auditory and visual formats.
6. Programmed learning manuals and other printed materials.
7. Facilities for duplication of print and tape materials for students to take with them for home use.
8. Individual testing facilities, devices, and materials.
9. Easily accessible storage facilities for all the materials for each student involved in the program.

In order for an individualized learning system to reach maximum effectiveness with the fewest frustrations and greatest satisfactions for students and faculty, administrative support is also needed in other areas:

1. Faculty members should be encouraged to organize, develop, and implement individualized learning programs through the awarding of released time and/or local grants.
2. An administrative policy should be established for the granting of credit and recording of grades whenever a student may complete the requirements for a course, whether it be before, during, or after the end of a regular semester unit of time.
3. A policy should be established to allow a student to enroll for the next course in sequence at any time that he may complete the preceding course.
4. There should be a continuing program of faculty in-service training opportunities in the development and improvement of the various components of the learning system.
5. There should be a consistent program of evaluation of the entire learning system.

Carefully organized, developed, implemented, and evaluated individualized learning systems have been shown to result in academic success for students, the goal of educational institutions.

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